

REMARKS

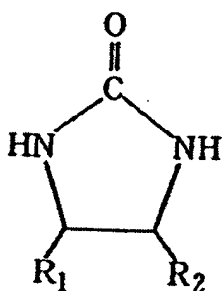
Reconsideration and allowance of the subject application are respectfully requested.

Claims 1-12 are pending in this application, with Claims 1 and 8-11 being independent.

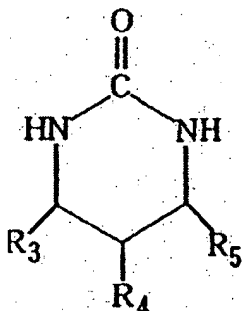
In the Office Action, Claims 1-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,790,878 (Kurabayashi) in view of U.S. Patent Application Publication No. 2001/0018471 (Taniguchi et al.). These rejections are traversed.

Applicants' invention as recited in Claim 1 is directed to an aqueous ink composition for ink jet. The aqueous ink composition includes: (i) a resin encapsulating a colorant and having a cationic hydrophilic group; (ii) a self-dispersing pigment having a cationic hydrophilic group bonded to the surface directly or via another atomic group, or a pigment fine particle dispersed with a dispersant having a cationic hydrophilic group; (iii) a polyhydric alcohol; and (iv) a compound selected from the group consisting of a compound represented by the following general formula (I), a compound represented by the following general formula (II), and mixtures thereof:

General formula (I)



General formula (II)



wherein R_1 to R_5 are independently each a hydrogen atom, CH_3 or C_2H_5 .

Applicants' invention as recited in independent Claim 8 is directed to an ink cartridge including an aqueous ink composition for ink jet. The aqueous ink composition is similar to the aqueous ink composition of Claim 1.

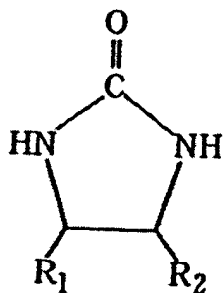
Applicants' invention as recited in independent Claim 9 is directed to a recording unit including an ink container containing an aqueous ink composition for ink jet. The recording unit includes an ink jet head for ejecting the ink. The aqueous ink composition is similar to the aqueous ink composition of Claim 1.

Applicants' invention as recited in independent Claim 10 is directed to an ink jet recording apparatus including an ink container containing an aqueous ink composition for ink jet recording. The ink jet apparatus includes an ink jet head for ejecting the ink. The aqueous ink composition is similar to the aqueous ink composition of Claim 1.

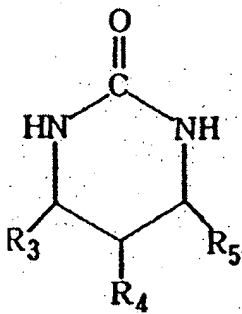
Applicants' invention as recited in independent Claim 11 is directed to an ink jet recording method including a step of applying an aqueous ink composition for ink jet to a recording material by an ink-jet process. The aqueous ink composition is similar to Claim 1.

Kurabayashi is directed to an ink including a pigment and a resin encapsulating a coloring material. The ink also includes a polyhydric alcohol such as glycerol or propylene glycol. As the Examiner recognizes, however, Kurabayashi does not teach or suggest use of a compound selected from the group consisting of a compound represented by the following general formula (I), a compound represented by the following general formula (II), and mixtures thereof:

General formula (I)



General formula (II)



wherein R₁ to R₅ are independently each a hydrogen atom, CH₃ or C₂H₅, as recited in the independent claims. To remedy this deficiency, the Examiner cited to Taniguchi et al.

Taniguchi et al. is directed to an ink composition. The ink composition includes a cationic, water-soluble resin that is stably dissolved in the ink composition. As a type of solvent, Taniguchi et al. discloses at least 30 different solvents, which include ethylene urea and propylene urea, two compounds included within Applicants' claimed general formula (I) and (II). In citing to Taniguchi et al. the Examiner suggested that one of ordinary skill in the art would be motivated to combine the solvents of Taniguchi et al. with the ink composition of Kurabayashi in order to produce an ink that is stably printed at low temperature. Applicants respectfully disagree.

Specifically, Applicants submit that one skilled in the art would not have been motivated to select a solvent from Taniguchi et al. for use in the ink compositions of Kurabayashi because the two patents are directed to compositions having different characteristics. As noted above, the water-soluble resin of Taniguchi et al. is stably dissolved in the ink composition. In contrast, in the ink compositions of Kurabayashi, it is essential that resin particles encapsulating a colorant be present. That is, the resin particles of Kurabayashi's inks are dispersed rather than dissolved. Applicants submit that one of ordinary skill in the art would not be motivated to look to Taniguchi et al. at least because of this and the fact that some of the solvents listed (such as dimethylsulfoxide and dimethylformamide) are capable of well dissolving resin (if it contains little or no crosslinking). Accordingly, Applicants submit that one of ordinary skill would not expect that the advantages cited for use of the solvents of Taniguchi et al., in an ink wherein the

resin is dissolved, would carry over to an ink wherein the resin is not dissolved, but rather dispersed. Thus, Applicants respectfully submit that one of ordinary skill in the art would have no motivation for combining Taniguchi et al. with Kurabayashi.

Moreover, of the solvents listed in Taniguchi et al., no particular advantage is mentioned for use of ethylene urea and propylene urea as compared to the other listed solvents. Since no particular advantage is cited for use of ethylene urea and propylene urea, and since neither of these solvents is used in the Examples, Applicants submit that one of ordinary skill in the art would not be motivated to select ethylene urea or propylene urea from the long list of solvents recited in Taniguchi et al.

For the foregoing reasons, Applicants submit that proposed combination of Taniguchi et al. with Kurabayashi would not have been obvious to one of ordinary skill in the art. Accordingly, reconsideration and withdrawal of the § 103 rejection are requested.

Applicants submit that the present invention is patentably defined by independent Claims 1 and 8-11. Dependent Claims 2-7 and 12 are also patentable, in their own right, for defining features of the present invention in addition to those recited in the independent claims. Individual consideration of the dependent claims is requested.

Applicants submit that this application is in condition for allowance. Favorable reconsideration, withdrawal of the rejection set forth in the above-noted Office Action, and an early Notice of Allowability are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "B. L. Klock", is written over a horizontal line.

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